Canadian surgeon and resident involvement in international plastic surgery

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SUMMARY

Surgery has become increasingly recognized as an important component of health care in low and middle income countries (LMICs). Many surgeons from high income countries (HICs) are interested in working on improving access to surgery in LMICs. We sought to evaluate the involvement and potential barriers of Canadian plastic surgeons and plastic surgery residents in international work with an online survey. The survey indicated that plastic surgery residents have a high interest and involvement in international electives, with 45% of graduating residents previously involved. About 40% of respondents were involved in international projects, and academic plastic surgeons were more frequently involved than community surgeons. Taking time off work and personal/family commitments were cited as the greatest obstacles for those who are currently involved, whereas finding opportunities was the biggest challenge for those who would like to participate in the future.

Surgery has become increasingly recognized as an important component of health care in low and middle income countries (LMICs). There are many international collaborative projects building surgical capacity, including collaborations with Canadian surgeons. Many Canadian surgeons are involved in teaching, research and providing clinical care in LMICs where surgical care is unaffordable and inaccessible for many. There is also increasing interest in international surgery among surgical residents in high income countries (HICs), with more than 85% of surgical trainees interested in incorporating international surgery into their future practice.¹ But do these intentions turn into actual involvement?

The field of plastic surgery has a long history of involvement in international surgery initiatives, but we have no real understanding of the degree of involvement among plastic surgeons. We sought to determine how Canadian plastic surgeons are involved in international work, and whether these opportunities are available to plastic surgery residents. An email survey was sent to all 411 members of the Canadian Society of Plastic Surgeons, with a single follow-up email to nonresponders. Questions revolved around international surgery projects, and could include clinical, educational, or research projects. There were 173 responses (42%), of which 119 were from practising surgeons, 42 were from residents in Canadian training programs, and the rest were from clinical fellows and elective residents. Responses came from across the country, and the time in practice and level of training varied among respondents (Table 1 and Table 2).

The survey showed a high participation rate in international surgery initiatives among Canadian plastic surgery residents, with 21% of trainees having participated in an international project and an additional 38% planning to do so later in their residency. Most trainees participated in their fourth year of residency, leading to participation rates of 45% by the final year of training. This compared with 27% of staff surgeons who had participated when they were residents. Participation in international opportunities

Table 1. Demographic characteristics of staff surgeons (n = 119)

Characteristic	No. (%)
Practice type	
Community	56 (47)
Academic	63 (53)
Location of practice	
Ontario	56 (47)
Quebec	14 (12)
Alberta	13 (11)
Manitoba/Saskatchewan	4 (3)
Atlantic Canada	10 (8)
British Columbia	20 (17)
Outside Canada	2 (2)
Years in practice	
< 5	29 (24)
5–9	24 (20)
10–14	15 (13)
15–19	6 (5)
≥ 20	45 (38)

Table 2. Demographic characteristics of residents (n = 42)

Characteristic	No. (%)
Postgraduate year of training	
1	7 (17)
2	7 (17)
3	10 (24)
4	7 (17)
5	11 (26)
Province of training	
Ontario	21 (50)
Quebec	10 (24)
Alberta	4 (10)
Manitoba	3 (7)
Atlantic Canada	2 (5)
British Columbia	2 (5)

Table 3. Challenges for residents and staff who participated in international surgical projects*

Challenge	No. (%)	
	Residents, n = 9	Staff, n = 49
Finances	3 (33)	13 (27)
Inability to take time off	3 (33)	37 (76)
Personal or family commitments	2 (22)	30 (61)
Finding opportunities	1 (11)	11 (22)
No significant challenges	5 (56)	1 (2)

*Respondents were able to choose more than one response.

appears much higher among Canadian plastic surgery residents than residents in other surgical specialties; for example, only 5% of Canadian orthopedic and general surgery trainees reported international involvement in a 2011 study.² Rates also appear to have increased over time, with current trainees participating more than those currently in practice.

Table 4. Factors that prevented residents and staff from participating in international surgery projects

Factor	No. (%)	
	Residents, n = 33	Staff, n = 70
Reason unable to participate*		
Finances	4 (13)	14 (26)
Inability to take time off	13 (41)	29 (54)
Opportunity did not present itself	15 (47)	34 (63)
Plans to participate later in residency	16 (50)	N/A
Interested in participating in future		
Yes	31 (97)	54 (77)
No	2 (3)	16 (23)

N/a = not applicable.

*Respondents were able to choose more than one response.

Previous studies have cited taking time off and finances as the greatest challenges to participating in international projects, and this is still true for the trainees who responded to our survey (Table 3). However, 56% of trainees who had been involved reported they did not have any significant challenges in participating. It is unclear whether their training program provided funding, but some training programs in Canada allow residents to participate in international projects as part of their training, perhaps mitigating the challenges of taking time off. Residents can gain many CanMEDS competencies from participating in international electives, and residency programs can justify including international rotations as part of their training programs.^{3,4} By allowing an international experience to be included as part of training, one of the biggest obstacles to participation can be eliminated. All Canadian surgical training programs can work to make these opportunities more accessible, and plastic surgery programs in Canada have shown that it is possible to have high participation rates in international surgery among trainees.

Most trainees who did not participate (97%) reported that they would like such an opportunity and that the greatest challenge was finding opportunities to do so. Surgeons could work with partner LMICs to develop more mutually beneficial opportunities. For example, by their fourth year in training, many HIC surgical residents are involved in teaching surgical skills to medical students and junior residents and could therefore help with shortage of surgeons available in LMICs for teaching due to high clinical workloads. We can work toward finding more opportunities for residents to participate so that they can build connections for future continued involvement.

Among practising plastic surgeons, more than 40% had been involved in some international surgery project since beginning practice. There are no data available to compare this rate of involvement to that of other surgical specialists in Canada. However, these data show that many who had intended to participate in international

work after graduation did not do so. The most commonly cited obstacle among those who had not participated in international work was finding the opportunities to contribute (77%; Table 4).

For those who were involved in international work, two-thirds participated at least once every 2 years; they cited taking time off work and personal/family commitments as the greatest challenges (Table 3). This seems to imply that there are opportunities for these surgeons to be more involved, but they are limited by other commitments. At the same time, some surgeons are interested in volunteering, but do not know where to find these opportunities. We could therefore do a better job helping international partners recruit Canadian surgeons — especially community surgeons, who were significantly less involved than academic surgeons in international projects (27% v. 54%). It is difficult to be certain of the cause of this difference; it may be that involvement in international surgery is perceived as more of an academic endeavour, or that academic surgeons may have more connections for partnerships and opportunities.⁵ Notably, community surgeons often have a much broader scope of practice than academic surgeons, which may make their experience more applicable in low-resource situations where there are not many subspecialists. Improved collaborations may be beneficial for both academic and community surgeons, and most importantly for their partners in LMICs, who may be looking for staffing support.

CONCLUSION

Our survey has given us a better understanding of the current landscape of Canadian involvement in international plastic surgery initiatives. With a 42% response rate, it shows a good picture of Canadian plastic surgeons, but may still have a bias toward those who have an interest in international work. The survey responses show high interest among our trainees, and that a relatively high number are able to participate. However, many who are interested in volunteering are still unable to do so because of lack of opportunities. Improving partnerships and expanding involvement and recruitment across Canada to community surgeons can help to tap this resource in a mutually beneficial way. Residency programs can also consider how to incorporate international electives within the training program to improve access to learning opportunities, while simultaneously helping to build surgical capacity around the world.

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References

1. Powell AC, Casey K, Liewehr DJ, et al. Results of a national survey of surgical resident interest in international experience, electives, and volunteerism. *J Am Coll Surg* 2009;208:304-12.
2. Matar WY, Trottier DC, Balaa F, et al. Surgical residency training and international volunteerism: a national survey of residents from 2 surgical specialties. *Can J Surg* 2012;55:S191-199.
3. White CP, Lecours C, Bortoluzzi P, et al. International plastic surgery missions: a framework for resident education using the CanMEDS competencies. *Ann Plast Surg* 2013;71:324-7.
4. Goecke ME, Kanashiro J, Kyamanywa P, et al. Using CanMEDS to guide international health electives: an enriching experience in Uganda defined for a Canadian surgery resident. *Can J Surg* 2008;51:289-95.
5. Ying Y, Rekman J, McCarthy A. International surgery: How to be involved while maintaining a surgical practice. *Am J Surg* 2019;218:71-6.